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NATIONAL FOREST FACTS

SOUTHWESTERN REGION

ARIZONA AND NEW MEXICO

1949

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PUBLICATIONS

"National Forest Facts"

The purpose of this booklet is to provide the salient facts regarding the forest resources and their management in the Southwestern Region of the Forest Service, U. S. Department of Agriculture. It includes the 13 National Forests in Arizona and New Mexico.

REGIONAL FORESTER
Post Office Building
Albuquerque, N. M.

1949

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ORIGIN OF NATIONAL FORESTS IN THE SOUTHWEST

Dates of Proclamations and Executive Orders Establishing Them	ARIZONA	Original Names and Present Names
	Apache National Forest	
August 17, 1898	Black Mesa Forest Reserve	
July 1, 1908	Part of the Black Mesa Forest Reserve became the Apache N.F. *	
(The above covers only the portion of the Apache N.F. in Arizona)		
	Coconino National Forest	
August 17, 1898	San Francisco Mountains Forest Reserve	
July 2, 1908	All of the San Francisco Mountains Forest Reserve and parts of the Black Mesa, Tonto and Grand Canyon Forest Reserves were consolidated under the name of Coconino N. F.	
	Coronado National Forest	
November 5, 1906	Baboquivari Forest Reserve	
November 6, 1906	Huachuca Forest Reserve	
November 7, 1906	Tumacacori Forest Reserve	
July 2, 1908	Baboquivari, Huachuca and Tumacacori Forest Reserves consolidated under name of Garces N. F.	
April 11, 1902	Santa Rita Forest Reserve	
July 2, 1902	Santa Catalina Forest Reserve	
May 25, 1907	Dragoon N. F.	
July 2, 1908	Santa Rita, Santa Catalina and Dragoon N.Fs. consolidated under name of Coronado N. F.	
April 17, 1911	Garces and Coronado N.Fs. consolidated under name of Coronado N. F.	
July 30, 1902	Chiricahua Forest Reserve	
November 5, 1906	Peloncillo Forest Reserve	
July 2, 1908	Chiricahua and Peloncillo Forest Reserves consolidated under name of Chiricahua N.F. (Portion of the Peloncillo in New Mexico)	

The term "National Forest" is abbreviated in this section.

Coronado National Forest (Continued)

July 6, 1917	Chiricahua and Coronado N.Fs. consolidated under name of Coronado N.F.

(The above covers the entire Forest in Arizona and New Mexico)

Crook National Forest

July 22, 1902	Mt. Graham Forest Reserve
March 20, 1905	Pinal Mountains Forest Reserve
October 3, 1905	Tonto Forest Reserve
January 13, 1908	Pinal Mountains Forest Reserve became part of Tonto N. F.
July 1, 1908	Parts of the Mt. Graham and Tonto N.Fs. including Pinal Mountains area, consolidated under name of Crook N.F.
January 23, 1925	518,431 acres transferred from Apache N. F. to Crook N. F.

Kaibab National Forest

February 20, 1893	Grand Canyon Forest Reserve
July 2, 1908	All of the San Francisco Mountains and parts of the Black Mesa, Tonto and Grand Canyon Forest Reserves consolidated under name of Coconino N.F.
June 28, 1910	Part of Coconino N.F. together with certain other land not heretofore reserved became Tusayan N. F.
May 22, 1908	Dixie N. F. (Arizona)
July 2, 1908	Kaibab N. F.
March 18, 1924	Dixie consolidated with Kaibab N.F.
August 4, 1934	Tusayan and Kaibab N.Fs. consolidated

Prescott National Forest

May 10, 1898	Prescott Forest Reserve
December 30, 1907	Verde Forest Reserve
July 2, 1908	Prescott and Verde N.Fs. consolidated under name of Prescott N. F.
October 22, 1934	249,201 acres transferred from Tusayan to Prescott N. F.

Sitgreaves National Forest

July 1, 1908	Parts of the Black Mesa and Tonto N.Fs. consolidated under name of Sitgreaves N. F.

Tonto National Forest

October 3, 1905	Tonto Forest Reserve
October 22, 1934	Bloody Basin transferred from Prescott to Tonto N.F. (151,285 acres)

NEW MEXICO

Apache National Forest

January 23, 1925	A portion of Datil N.F. was transferred to Apache N.F. This portion was originally part of the Magdalena and Gila River Forest Reserves.

Carson National Forest

November 7, 1906	Taos Forest Reserve
July 1, 1908	Carson N. F. created by consolidation of Taos N. F. and part of Jemez N. F.
June 16, 1923	63,708 acres in Taos County transferred from Santa Fe N.F. to Carson N. F.

Cibola National Forest

October 5, 1906	Mt. Taylor Forest Reserve
November 5, 1906	San Mateo Forest Reserve Magdalena Forest Reserve
November 6, 1906	Manzano Forest Reserve
April 16, 1908	Mt. Taylor N.F. consolidated with Manzano N. F.
June 18, 1908	Creating the Datil N. F.
July 2, 1908	San Mateo N. F. added to Magdalena N.F.
February 23, 1909	Magdalena and Datil N.Fs. consolidated
March 2, 1909	Zuni N. F.
September 10, 1914	Zuni N. F. consolidated with Manzano N.F.
December 3, 1931	Name of the Manzano changed to Cibola N. F. and a portion of the Datil transferred to the Cibola

Gila National Forest

March 2, 1899	Gila River Forest Reserve
February 6, 1907	Big Burros Forest Reserve
June 18, 1908	Consolidating the Big Burros with Gila N. F.
December 24, 1931	A portion of the Datil was transferred to the Gila N. F.

Lincoln National Forest

July 26, 1902	Lincoln Forest Reserve
November 5, 1906	Gallinas Forest Reserve
April 19, 1907	Guadalupe N. F.
April 24, 1907	Sacramento N. F.
July 2, 1908	Guadalupe and Sacramento N. Fs. consolidated as Alamo N. F. The Gallinas and Lincoln N.Fs. consolidated as Lincoln N. F.
June 6, 1917 (effective July 1)	Alamo N. F. transferred to the Lincoln N. F.

Santa Fe National Forest

January 11, 1892	Pecos River Forest Reserve
October 12, 1905	Jemez Forest Reserve
July 1, 1908	Pecos River N. F. changed to Pecos N. F.
July 1, 1915	Jemez and Pecos N. Fs. consolidated as the Santa Fe N. F.

October 3, 1905	Portales Forest Reserve
March, 1907	Portales Forest Reserve restored to the public domain

NOTE: The foregoing covers only changes of name and major transfers. There have been many additions, eliminations and changes in boundaries not listed.

FIRE RECORD FOR 1948
Calendar Year

Forest and State	A. Less than ¼ A.	B. ¼ A. & Less Than 10 A.	C. 10A. & Less Than 100 A.	D. 100A. & Less Than 300 A.	E. Over 300 A.	Total	Man-caused fires
ARIZONA							
Apache	69	32	5			106	13
Coconino	289	84	5	1	4	383	92
Coronado	40	8	4	3	1	56	14
Crook	25	13	2	3		43	7
Kaibab	96	38	3			137	44
Prescott	37	14	3		1	55	10
Sitgreaves	114	49	5	3		171	34
Tonto	95	25	6		1	127	20
Total: ARIZONA	765	263	33	10	7	1,078	234
NEW MEXICO							
Apache	29	26	1			56	3
Carson	20	14	3			37	17
Cibola	34	12	4		1	51	19
Coronado	1					1	
Gila	91	78	10		1	180	14
Lincoln	42	15	5			62	11
Santa Fe	39	23				62	10
Total NEW MEXICO	256	168	23		2	449	74
Total REGION 3	1,021	431	56	10	9	1,527	308

ACREAGE BURNED 1948

Forest and State	Gross Inside Boundaries	Maximum* Area Objective
ARIZONA		
Apache	206	160
Coconino	5,640	600
Coronado	3,295	1,040
Crook	807	350
Kaibab	220	375
Prescott	1,685	400
Sitgreaves	799	300
Tonto	8,375	300
Total - ARIZONA	21,027	3,525
NEW MEXICO		
Apache	83	125
Carson	92	150
Cibola	1,866	300
Coronado		
Gila	1,051	700
Lincoln	304	500
Santa Fe	42	200
Total - NEW MEXICO	3,438	1,975
Total - REGION 3	24,465	5,500

*This represents the area to which the Forest Service hopes to hold down fires.

NATIONAL FOREST IMPROVEMENTS (GOVERNMENT OWNED) ON JUNE 30, 1948
(Includes Southwestern Forest & Range Exp. Station)

ARIZONA

	Fire Control and Administration	Number	Miles	Construction Cost
1.	Fire Control Improvements			122,610.0
2.	Lookout Houses, Towers & Observatories	68		
3.	Fire Control Water Facilities	2		
4.	Firebreaks		13.0	
	Administration Improvements			
5.	Communication Systems			401,958.0
6.	Telephone Lines		2,079.0	
7.	Dwellings and Related Improvements			715,635.0
8.	Dwellings	228		
9.	Other Structures	309		
10.	Water and Sanitary Systems	122		
11.	Warehouses, Shops and Offices			432,825.0
12.	Offices	51		
13.	Shops	9		
14.	Warehouses	205		
	Total:			1,673,028.0
	Public Service			
15.	Recreation Use Improvements			1,065,051.0
16.	Campgrounds and Picnic Areas	156		
17.	Swimming Areas	3		
18.	Winter Sports Areas	7		
	Total:			1,065,051.0
	Wildlife and Range Use Improvements			
19.	Range Use Improvements			3,258,992.0
20.	Range Fences and Corrals		7,040.8	
21.	Stock Driveways		178.8	
22.	Range Water Developments	2,401		
23.	Artificial Reseeding (Acres)	2,310		
24.	Wildlife Use Improvements			163,191.0
25.	Game Refuge Fences		7.8	
26.	Fish Rearing Ponds	15		
27.	Stream and Lake Improvements	39		
	Total:			3,422,183.0
28.	Soil and Water Control Improvements			334,777.0
29.	ROADS		5,442.2	9,587,896.0
30.	TRAILS		3,966.1	540,217.0
	Total:			10,462,890.0
	GRAND TOTAL			16,623,152.0

RANGER DISTRICTS IN REGION 3 - TOTAL 73

ARIZONA		NEW MEXICO	
Apache National Forest	2	Apache National Forest	3
Coconino " "	6	Carson " "	6
Coronado " "	6	Cibola " "	6
Crook " "	5	Coronado " "	0
Kaibab " "	4	Gila " "	7
Prescott " "	6	Lincoln " "	5
Sitgreaves " "	4	Santa Fe " "	7
Tonto " "	6		34
	39		

NATIONAL FOREST IMPROVEMENTS (GOVERNMENT OWNED) ON JUNE 30, 1948
(Includes Southwestern Forest & Range Exp. Station)

	NEW MEXICO			TOTAL R-3		
	Number	Miles	Construction Cost	Number	Miles	Construction Cost
1.			88,539.00			211,149.00
2.	50			119		
3.				2		
4.		8.0			21.0	
5.			648,211.00			1,050,169.00
6.		2,405.0			4,550.7	
7.			473,988.00			1,189,623.00
8.	156			384		
9.	260			569		
10.	57			179		
11.			283,985.00			716,810.00
12.	38			89		
13.	4			13		
14.	141			346		
			1,494,723.00			3,884,561.00
15.			568,275.00			1,633,326.00
16.	109			265		
17.				3		
18.	12			19		
			568,275.00			1,633,326.00
19.			2,376,986.00			5,635,978.00
20.		5,642.5			12,683.3	
21.		44.0			222.8	
22.	963			3,364		
23.	306			2,616		
24.			82,691.00			245,882.00
25.		2.5			10.3	
26.				15		
27.	58			97		
			2,459,677.00			5,881,860.00
28.			439,168.00			773,945.00
29.		2,819.5	7,119,968.00		8,261.7	16,707,864.00
30.		3,384.5	304,155.00		7,350.6	844,372.00
			7,863,291.00			18,326,181.00
	2,154		12,385,966.00			29,725,928.00

TIMBER RESOURCES IN ARIZONA AND NEW MEXICO

Forest area in Arizona and New Mexico may be divided into two types:

1. The sawtimber area, containing ponderosa pine, Douglas fir, white fir and other species suitable for logging operations. This area is generally found above 7,000 ft. elevation and up to 11,500 ft.(timberline). It receives precipitation averaging 19 inches or better, annually. (In general, precipitation increases with elevation).

2. The woodland area, containing pinon, juniper, oak and the like. Generally between the 5,000 ft. and 7,000 ft. elevations, where precipitation is from 12 to 18 inches annually.

FOREST AREA IN REGION 3
(In acres. Includes all ownerships)

	Sawtimber Area,	Woodland Area	Total Forest Area
ARIZONA	4,638,000	14,900,000	19,538,000
NEW MEXICO	6,101,000	13,900,000	20,001,000
REGION 3	10,739,000	28,800,000	39,539,000

A considerable part of the sawtimber area in Arizona and New Mexico is inaccessible or too scattered for logging purposes or withdrawn for purposes other than timber production. This part is classed as "non-commercial". The part which can be used for timber production is called the "commercial" sawtimber area, and according to present ideas, this area is all that will be available for future production of timber.

COMMERCIAL SAWTIMBER AREA AND VOLUME

ARIZONA	Area (Acres)	Volume (M ft. B.M.)
National Forests	2,058,000	11,550,000
Indian Reservations	686,000	4,467,000
State	30,000	105,000
Total, Federal and State	2,774,000	16,122,000
Private	41,000	148,000
Grand Total:	2,815,000	16,270,000

NEW MEXICO		
National Forests	2,020,000	5,610,000
Indian Reservations	345,000	653,000
Other Federal	40,000	142,000
State	149,000	407,000
Total, Federal & State	2,554,000	6,812,000
Private	911,000	1,659,000
Grand Total:	3,465,000	8,471,000

The commercial sawtimber area may be divided as follows (by acres):

	Virgin	Cut-over	Total
ARIZONA	1,969,000	846,000	2,815,000
NEW MEXICO	1,834,000	1,631,000	3,465,000

The cut-over land varies in its condition and consequently in its ability to produce future timber crops. For the Region, it varies about as follows:

	Acres
1. Denuded lands with only a light stand of seedlings & saplings	424,000
2. Land fairly stocked with seedlings & saplings	495,000
3. Land with pole timber (trees between 4 and 12 inches D.B.H.)	598,000
4. Selectively-cut land such as that on publicly owned areas	960,000
	2,477,000

It is only from such lands as the last (No.4) that an early second cut of timber will be obtainable.

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NUMBER OF TREE SPECIES IN REGION 3

According to U. S. Department of Agriculture, Misc.Circular No.92, "Check List of the Forest Trees of the United States", there are 131 species of trees in Region 3.

Of these 131 species, four make up 98% of volume of the sawtimber stand. Ponderosa pine (Pinus ponderosa) makes up 82% of the volume; Douglas fir (Pseudotsuga taxifolia)10%; White fir (Abies concolor) 3%; Engelmann Spruce (Picea engelmannii) 3%; Mexican white pine (Pinus strobiformis), Corkbark fir (Abies Arizonica), limber pine (Pinus flexilis), etc., making up the remainder.

FUEL VALUE OF WOOD
(Local species and typical others for comparison)

Approximate equivalents of one ton (2,000 pounds) of coal in terms of one cord of 128 cubic feet containing 80 cubic feet of solid wood:

One cord of	One and one-half cords of	Two cords of
Oaks	Soft maple	Cedars
Locusts	Sycamore	Cypress (Cupressus)
Hard maple	Mesquite tops	Cottonwoods
Ashes	Douglas fir	Aspen
Hickory	Southern pines	Pines (other than southern)
*Mesquite Roots	Hemlocks	
	Larch	

* Of all American species of wood, mesquite is one of the few in which the root-wood is of higher specific gravity than above-ground wood. It pays to use the root-wood for fuel and the grubbing will improve many of our ranges.

SAWTIMBER CUT BY YEARS (ENTIRE STATE)

Data from Census (Calendar Year)
(All Ownerships)

(The figures below are in M ft. B.M., which equals 1,000 board feet)

Year	Number Mills Reporting: Arizona	Number Mills Reporting: New Mexico	Total Cut: Arizona	Total Cut: New Mexico	Total Cut: Arizona & New Mexico
1932:	22	52	58,000	72,000	130,000
1934:	34	74	73,000	101,000	174,000
1936:	36	87	123,411	140,840	264,251
1937:	39	105	123,041	164,446	287,487
1938:	37	94	118,200	125,176	243,376
1939:	42	98	119,206	106,227	225,433
1940:	41	100	128,776	112,786	241,562
1941:	42	119	130,567	114,612	245,179
1942:	38	138	143,286	122,958	266,244
1943:	44	118	151,547	109,099	260,646
1944:	47	136	172,198	105,348	277,546
1945:	53	135	157,984	99,100	257,084
*1946:	66	158	240,735	144,214	384,949

The sawtimber forests of Arizona and New Mexico have supplied sawtimber for the production of approximately nine and one-half billion board feet of saw products during the period 1879 to 1946 inclusive.

TIMBER CUT FROM NATIONAL FORESTS, BY YEARS

All classes of products converted to M ft. All classes of Forest Sales
Calendar Year

Year	Sales (All Classes) & Exchange M Ft. BM: Arizona	New Mexico	Total Arizona & New Mexico	Average Price Per M Ft.	Free Use * *: Arizona	New Mexico	Total
1932:	57,577	11,541	69,118	$ 2.31	12,876	27,962	40,838
1934:	35,452	13,600	49,052	2.35	14,568	23,485	38,053
1936:	92,154	35,848	128,002	2.34	13,593	22,253	35,846
1937:	92,474	51,775	144,249	2.24	7,902	25,332	33,234
1938:	69,853	37,818	107,671	2.19	8,117	25,452	33,569
1939:	65,416	32,780	98,196	2.18	8,381	24,111	32,492
1940:	74,634	41,084	115,718	2.30	8,976	28,674	37,650
1941:	79,301	29,949	109,250	2.45	6,767	29,850	36,617
1942:	75,033	45,190	120,223	2.48	6,575	20,588	27,163
1943:	77,634	54,053	131,687	2.82	4,756	13,660	18,416
1944:	113,551	41,678	155,229	3.40	4,970	13,565	18,535
1945:	109,209	42,768	151,977	3.33	5,304	16,527	21,831
1946:	170,358	49,477	219,835	3.29	6,845	18,606	25,451
1947:	196,444	47,854	244,298	3.54	4,579	17,061	21,640
1948:	193,498	43,225	236,723	4.32	4,958	13,022	17,980

Handled under cooperative agreement (State Timber) 7,577 M (C.Y. 1948)
Handled under cooperative agreement (Private Timber) 4,973 M (C. Y. 1948)

* Latest data available
**Allowed settlers and residents on and adjacent to the National Forests for fuel, fencing, building, etc. These figures on fiscal year basis.

NATIONAL FOREST TIMBER CUT, BY FORESTS

Fiscal Year 1948

National Forest	Sales & Exchange (1000 Bd. Ft.)	Value	Amount Free Use (1,000 Bd. Ft.)
Apache	38,010	$ 109,840	608
Coconino	76,851	221,172	625
Coronado	711	1,950	1,069
Crook	654	2,001	114
Kaibab	15,671	62,293	405
Prescott	1,470	7,672	384
Sitgreaves	44,604	234,634	754
Tonto	4,360	21,620	999
ARIZONA	182,331	661,182	4,958
Apache	7,401	46,508	471
Carson	4,584	23,344	6,713
Cibola	7,114	32,758	1,744
Coronado	-	-	84
Gila	6,175	25,641	506
Lincoln	4,271	24,009	944
Santa Fe	13,579	80,198	2,560
NEW MEXICO	43,124	232,458	13,022
REGION 3	225,455	893,640	17,980

Increment of Ponderosa Pine Stands During Different Periods After Cutting
(Data collected and compiled by Southwestern Forest and Range Exp.Station)

Board Ft. Remaining After Cutting	Years After Cutting: 5 Board Feet	10 Board Feet	15 Board Feet	20 Board Feet	25 Board Feet	30 Board Feet
200	50	145	200	320	420	520
600	100	250	390	520	670	800
1,000	165	325	495	680	870	1,030
2,000	260	515	805	1,090	1,340	1,610
3,000	350	700	1,125	1,550	1,825	2,230
4,000	460	900	1,410	1,910	2,430	2,900
5,000	540	1,050	1,640	2,240	2,800	3,350
6,000	620	1,220	1,850	2,550	3,250	3,875
7,000	670	1,350	2,070	2,800	3,550	4,250
8,000	735	1,480	2,250	3,050	3,950	4,650
9,000	775	1,550	2,400	3,200	4,050	4,700
10,000	800	1,650	2,500	3,250	4,000	4,800

NOTE: Increment volumes in lower portion of table are subject to considerable error due to too few plots. Volumes beyond 20 years were obtained by extending curve.

COMPARATIVE DECAY RESISTANCE OF HEARTWOOD OF LOCAL AND FREQUENTLY-USED OUTSIDE SPECIES

(Applies only to heartwood, untreated. Sapwood of no species is durable under conditions favoring decay; i.e., in contact with soil, poorly-drained or aerated parts of buildings, bridges, etc.)

Durable Group

Cedars
Junipers
Black Locust
Osage Orange
Redwood
Southern cypress

Nearly as Durable Group

White oaks
Honey locust
Dense Douglas fir
Dense southern pine
Dense larch

High Intermediate Group

Cypress (Cupressus)
Douglas fir (unselected)
Southern pine (unselected)
Larch (unselected)

Low Intermediate Group

Red Oaks
Pines (other than southern)
Maple (hard and red)
Ashes
Hemlocks
Spruces

Nondurable Group

True firs (concolor, alpine, balsam, etc.)
Aspen
Cottonwood
Willows

NOTE: When used under decay-inducing conditions the woods in the last three groups should be treated with an approved preservative and in so treating sapwood all around is preferable.

Stream flow characteristics of small mountain watersheds in central Arizona as related to precipitation.

	Elevation (ft.)	Precipitation (inches)	Stream flow (inches)	Stream flow as percent of precipitation
Winter period (October through May)				
Workman Creek (1938-45)	6500-7700	25.6	3.8	14.7
Parker Creek (1934-45)	5400-7400	20.9	6.6	31.6
Pocket Creek (1936-45)	5300-7000	17.8	4.4	24.6
Summer period (June through September)				
Workman Creek (1939-46)	6500-7700	10.4	0.40	3.8
Parker Creek (1934-46)	5400-7400	9.9	0.32	3.2
Pocket Creek (1937-46)	5300-7000	8.5	0.18	2.1

The above table indicates that summer rains ordinarily contribute little to stream flow; the bulk of the water comes from the winter precipitation. The reasons are (a) Summer thunderstorms are usually local and of short duration; any run-off generally disappears in dry stream beds. (b) Summer rains generally do not get a chance to accumulate in the ground, and hence do not produce sub-surface flow. In contrast, winter period storms are generally widespread, of medium to high intensity, and long duration. Hence, they produce sub-surface run-off and relatively high water yield. There are exceptions to the above; occasionally a late summer storm causes heavy run-off of short duration.

SOIL LOSS, SURFACE RUN-OFF, AND INFILTRATION
As Affected by Different Soil Types and Vegetation

(From records of Southwestern Forest and Range Experiment Station)

In 1938 a battery of seven pairs of 1,000 square inch lysimeters -- or soil boxes -- was installed at the Sierra Ancha Experimental Forest. Each contained undisturbed soil blocks representing seven different important soil types from the Tonto National Forest. One of each pair of soil boxes is grass covered and one is bare of vegetation. Results for 6 years are summarized in the table on the following page:

Soil Types	Soil Loss (cu. in.)		Surface run-off in percent of Precipitation		Percolation in percent of Precipitation	
	Bare	Vegetated	Bare	Vegetated	Bare	Vegetated
Gray schist	302	91	52.3%	38.9%	6.2%	12.2%
Volcanic malpais	721	208	14.9%	15.4%	27.2%	11.5%
Conglomerate	512	87	19.1%	15.0%	24.0%	20.4%
Red Shale	661	17	25.9%	2.0%	19.5%	26.2%
Sandstone	586	29	30.2%	5.8%	18.5%	23.2%
Diabase	341	16	27.7%	6.7%	19.0%	22.4%
Quartzite	322	7	31.5%	3.2%	8.9%	24.6%
Total	3,445	455	28.8%	12.4%	17.6%	20.1%

Facts indicated by the data: On the average for all soil types the amount of eroded material from the bare plots was seven and one-half times as great as that from the vegetated plots. Surface run-off, like erosion, was greatest on all the bare soil types with the exception of the volcanic malpais. On the average, infiltration was greater on the vegetated plots. Both surface run-off and erosion per unit of precipitation were greater during the summer period, while most of the infiltration occurred during the winter.

ESTIMATED WATER YIELD BY PRINCIPAL DRAINAGES

(The basis for these estimates is a correlation of stream-gaging and precipitation records, adjusted to elevations, vegetative association and other factors affecting run-off. The precipitation data were obtained from Weather records and state maps and the available stream-gaging records used for certain basic flow determinations were obtained from U.S.G.S. water supply papers.)

Santa Fe National Forest

Drainage Name	Gross Area of Basin in Sq. Miles (Santa Fe Forest)	Annual Water yield-Acre Ft. Per Year	Per Sq. Mi.
Mora River *	132	42,000	317
Gallinas River	57	20,000	346
Tecolote Creek	46	8,000	179
El Rito Creek	30	3,500	118
Canyon Blanco	74	4,500	60
Cow Creek	121	26,500	220
Pecos River	306	108,000	353
Rio Galisteo	74	6,200	85
Santa Fe Creek	35	8,500	242
Pojoaque Creek	60	13,100	218
Santa Cruz & Truchas	117	36,000	308
Direct Tributaries from West Side **	209	17,600	84
Jemez River	223	40,400	181
Rio Puerco	102	12,100	119
Chama River	336	43,500	129
Gallina River	218	21,600	100
Largo Creek (San Juan)	18	800	44
Total Santa Fe Forest	2,158	412,300	190

*Includes Rociada Tract and unacquired Mora Grant lands to Forest Boundary.

** Excluding Ramon Vigil Grant.
Baca Location is not included in estimates.

ESTIMATED WATER YIELD BY PRINCIPAL DRAINAGES

Gila National Forest

Drainage Name	Gross Area of Basin in Sq. Miles (Gila Forest)	Annual Water Yield-Acre Ft. Per Year	Per Sq. Mile
Luera Mtns. & Y Canyon	155	4,100	26
Negrito Creek	185	8,100	44
San Francisco (Direct)	486	35,000	68
Sub (San Francisco)	671	43,100	62
Sacaton Creek	18	2,500	139
Mogollon Creek	110	17,100	155
West Fork, Gila	164	30,850	188
Middle Fork, Gila	364	35,500	98
Main Stem, Gila	728	35,700	49
Bear Creek	126	7,200	57
Sapillo Creek	176	9,750	55
Black Canyon	115	10,100	88
Diamond Creek	119	9,700	81
Mangas Wash (Burros)	82	2,100	26
Gila direct (Tillie-Hall Peak)	36	800	22
Gila direct (Burros)	178	4,100	23
Sub T. (Gila River)	2,216	165,400	76
Mimbres	345	19,600	57
Rio Grande (Direct)	454	26,100	57
Sub T. (Rio Grande)	799	45,700	57
Total Gila Forest	3,841	258,300	67

Carson National Forest

Latir Creek	17	5,500	325
Red River	171	62,000	364
San Cristobal	29	3,200	112
Rio Hondo	38	19,300	507
Taos Creek*	123	32,200	264
Little Rio Grande*	145	38,300	264
Embudo (Pueblo Cr.)	230	65,000	284
Coyote Creek (Can)#	14	4,500	320
Los Pinos -San Antone	204	50,000	248
Brazos **	20	8,000	392
Aguage Arroyo ##	74	4,600	62
Las Tusas	186	22,000	120
Vallecitos *	220	37,000	170
El Rito Creek	65	13,500	207
Canjilon Creek *	151	14,500	101
Rio Nutrias **	17	3,500	212
Rio Cebolla **	54	4,000	76
Chama (Direct)	38	600	16
San Juan (Jicar.)	249	15,600	63
Total Carson Forest***	2,045	403,300	197

* Includes Non-National Forest area of Watershed.
** National Forest drainage only.
*** Totals include non-forest areas as listed above.
\# Does not include Santa Fe area to be administered by Carson.
Does not include Taos Resettlement Area.

ESTIMATED WATER YIELD BY PRINCIPAL DRAINAGES

Apache National Forest

Drainage Name	Gross Area of Basin In Sq. Miles (Apache Forest)	Annual Water Yield - Acre Ft. Per Year	Per Sq. Mile
Mineral Creek	52	12,200	232
Canero Creek	37	8,300	224
Little Colorado (Direct)	81	33,700	414
So.Fork Little Colorado	55	14,300	260
Nutrioso Creek	148	17,300	117
Coyote Creek*	80	5,500	69
Agua Fria Creek*	127	6,400	51
Largo Creek*	127	13,700	108
(Sub-T.Little Colorado)	707	111,400	158
Mangas Creek*	61	8,100	133
Alamacito-Patterson*	74	8,400	114
T.H. Canyon-Cottonwood*	45	6,100	135
(Sub-T.Interior Plains)	180	22,600	126
Tularosa Creek	324	23,800	74
Apache Creek	137	10,900	79
Saliz-Brushy Creek	75	4,200	56
Pueblo Creek	84	5,800	69
Upper "Frisco" Direct	162	24,200	149
Centerfire-Karruth Creek	149	10,800	73
Lower "Frisco" Direct	214	11,000	51
(Sub-Total San Francisco River) **	1,145	90,700	80
Campbell & Dry Blue	112	24,700	220
Blue River (Direct)	184	23,800	129
(Sub-Total Blue River)	296	48,500	164
North Fork Black River	49	21,800	445
East Fork Black River	63	25,500	405
Black River (Direct)	244	101,600	415
(Sub-Tot.Black River)	356	148,900	418
Total Apache Forest	2,684	422,100	157

* Principally flood waters and seasonal flow

** Exclusive of Negrito Creek above Apache-Gila boundary

NOTE: Water yield estimates for other Forests of Region 3 are not yet available.

Total Area Available for Livestock
(Includes National Forest Range)

	Arizona	New Mexico	TOTAL
Total Land Area	72,838,400	78,401,920	151,240,320
Barren and Unaccessible	9,310,394	1,578,358	10,888,752
Other Non-grazable	1,853,855	3,059,800	4,913,655
Total Non-grazable	11,164,249	4,638,158	15,802,407
Total Gross Grazable	61,674,151	73,763,762	135,437,913
Closed to Grazing	815,839	260,245	1,076,084
Total Net Area Available for Livestock - Acres	60,858,312	73,503,517	134,361,829
Percent	83.5	93.7	88.8

Livestock Actually Grazed Under Permit on National Forests

ARIZONA

C.Y.	Cattle	Horses	Sheep	Goats	Swine	Exempt Livestock
1929	181,125	1,951	351,221	1,397	455	18,631
1930	172,024	1,533	352,368	426	272	11,073
1931	178,900	1,427	331,329	3,345	196	10,778
1932	181,388	1,391	262,652	1,786	157	10,460
1933	185,711	1,312	361,013	0	115	10,824
1934	188,281	1,018	245,189	10	80	10,629
1935	181,363	912	252,117	0	55	10,398
1936	180,046	1,074	270,029	600	50	11,273
1937	182,421	1,014	242,182	600	42	11,261
1938	183,396	1,042	223,993	600	45	11,287
1939	171,778	1,198	199,086	800	45	10,087
1940	149,896	1,397	155,068	800	45	9,335

	C & H	S & G		C&H	S&G	Swine
*1941	158,377	142,444	30	8,827	10	10
*1942	157,500	143,948	45	8,504	10	9
*1943	158,640	135,560	45	8,550	-	-
*1944	153,217	113,504	35	8,280	6	9
*1945	147,726	104,408	25	7,609	76	-
*1946	143,995	103,506	18	6,223	-	-
*1947	136,696	102,070	19	5,575	-	-
*1948	130,577	82,409	19	5,167	5	-

* C&H and S&G figures combined in annual grazing report.

Livestock Actually Grazed Under Permit on National Forests

NEW MEXICO

C.Y.	Cattle	Horses	Sheep	Goats	Swine	Exempt Livestock
1929	81,044	3,381	244,509	10,427	134	11,024
1930	82,049	2,964	225,577	10,526	84	11,044
1931	86,197	2,651	217,044	9,592	102	10,374
1932	88,669	2,148	211,156	10,850	104	11,581
1933	91,747	1,704	191,617	10,225	60	11,488
1934	92,923	1,548	200,156	8,082	19	11,467
1935	89,174	1,755	179,410	8,639	15	7,641
1936	86,636	1,894	189,446	6,988	0	10,425
1937	86,776	1,841	164,709	6,638	0	10,473
1938	84,136	1,869	167,524	6,417	0	10,016
1939	89,120	2,028	168,230	4,969	0	11,766
1940	89,105	1,720	157,601	5,163	0	12,373
	C&H		S&G			C&H / S&G
*1941	86,381		168,529		0	9,344 / 1,474
*1942	87,519		164,952		51	8,631 / 1,369
*1943	87,608		150,695		209	9,388 / 1,168
*1944	89,941		144,060		-	8,838 / 1,186
*1945	83,571		137,767		-	8,798 / 1,605
*1946	84,794		125,395		-	8,273 / 1,329
*1947	80,744		111,497		-	7,225 / 988
*1948	75,811		96,339		-	5,909 / 1,022

* C&H and S&G figures combined in annual grazing reports.

Estimates of Wildlife on National Forests

Game Animals

	Year	Antelope	Black or Brown Bear	Deer	Elk	Mtn. Sheep	Peccary or Javelina	Squirrel	Turkey
Arizona	1937	5490	840	73,980	4400	200	5810	57,900	10,620
	1938	5320	865	70,020	4140	210	6140	43,590	9,990
	1939	5100	860	67,780	4290	220	7100	25,400	8,990
	1940	5400	970	62,500	4340	215	*	*	8,370
	1941	5900	950	61,700	4300	210	7100	298,330	8,760
	1942	5500	1020	64,995	4100	200	8400	*	9,400
	1943	5235	960	61,995	4095	190	8700	*	*
	1944	5000	1021	61,107	3897	166	10355	*	11,570
	1945	4691	872	63,762	4190	145	11202	*	11,466
	1946	5192	888	63,921	5854	133	10287	*	12,520
	1947	4832	924	62,914	6574	91	10706	*	13,955
	1948	5250	925	62,505	6870	70	11840	*	13,810
New Mex.	1937	1180	1320	76,400	880	55	400	38,400	12,500
	1938	1460	1330	72,200	965	90	300	38,800	13,120
	1939	1550	1324	69,130	1040	70	400	36,500	12,350
	1940	1700	1430	69,300	1060	55	*	*	11,100
	1941	2100	1400	68,800	1200	60	400	340,500	10,810
	1942	2300	1342	68,100	1300	60	500	*	11,000
	1943	2395	1412	68,250	1497	90	500	*	*
	1944	2506	1493	67,270	1572	93	500	*	10,253
	1945	2628	1550	67,072	1589	104	1005	*	10,645
	1946	2478	1627	65,838	1616	108	1200	*	10,303
	1947	2392	1351	65,787	1742	114	500	5,600	10,132
	1948	2185	1290	63,500	1940	115	510	5,600	10,330
Total Region 3	1937	6670	2160	150,380	5280	255	6210	96,300	23,120
	1938	6780	2195	142,220	5105	300	6440	82,390	23,110
	1939	6650	2184	136,910	5330	290	7500	61,900	21,340
	1940	7100	2400	131,800	5400	270	*	*	19,470
	1941	8000	2350	130,500	5500	270	7500	638,830	19,570
	1942	7800	2362	133,095	5400	260	8900	*	20,400
	1943	7630	2372	130,245	5592	280	9200	*	*
	1944	7506	2514	128,377	5469	259	10855	*	21,823
	1945	7319	2422	130,834	5779	249	12207	*	22,111
	1946	7670	2515	129,759	7470	241	11487	*	22,823
	1947	7224	2275	128,701	8316	205	11206	5,600	24,087
	1948	7435	2215	126,005	8810	185	12350	5,600	24,140

* Data not available.

Estimates of Wildlife on National Forests

Fur-Bearing Animals

	Year	Badger	Beaver	Fox	Mink	Muskrat	Raccoon	Ringtail Cat	Skunk	Weasel
Arizona	1937	4,110	930	20,550	70		6,840	6,110	43,200	2,210
	1938	3,640	960	20,370	50		6,950	6,730	42,500	2,090
	1939	3,000	931	20,400	20		6,200	7,200	41,700	2,200
	1940	3,300	957	21,300	300		7,300	8,600	35,500	2,200
	1941	3,200	950	21,600	300		7,500	8,600	34,600	2,700
	1942	3,200	1117	19,860	60	1,500	8,300	7,800	35,600	2,700
	1943	3,100	1195	20,630	55	2,340	7,720	*	40,460	1,235
	1944	3,085	804	19,165	28	1,298	7,055	900	38,750	1,487
	1945	2,950	1630	19,351	54	2,295	7,516	1,000	35,665	1,147
	1946	3,076	1758	19,470	24	2,585	8,046	955	34,477	1,622
	1947	3,056	1752	19,011	23	2,702	7,932	735	34,114	1,311
	1948	3,090	2175	17,630	20	2,690	7,510	730	33,920	1,185
New Mex.	1937	2,710	1770	6,990			1,700	1,850	29,480	1,680
	1938	2,940	1810	6,810	410		1,760	2,120	28,430	4,240
	1939	3,090	1860	6,900	400		1,700	2,250	27,000	4,200
	1940	3,400	2322	6,700	300		1,800	2,500	35,300	3,000
	1941	3,400	2522	6,900	500		1,800	2,700	28,100	6,300
	1942	3,310	2770	7,200	500	1,830	1,800	2,600	27,200	6,200
	1943	3,790	2835	7,680	470	2,090	1,810	*	28,400	6,560
	1944	3,810	3505	7,715	470	2,630	1,818	410	27,270	7,710
	1945	3,927	3227	8,200	475	1,630	1,733	312	29,753	8,030
	1946	3,990	3445	7,956	494	1,810	1,830	187	29,280	8,020
	1947	4,035	3520	7,731	475	1,595	1,815	130	28,030	7,765
	1948	3,915	3361	7,285	460	1,580	1,710	140	26,920	7,440
Total Region 3	1937	6,820	2700	27,540	600		8,540	7,860	72,680	3,890
	1938	6,580	2770	27,180	460		8,710	8,850	70,930	6,330
	1939	6,090	2791	27,300	430		7,900	9,450	68,700	6,400
	1940	6,700	3279	28,000	600		9,100	11,100	70,800	5,200
	1941	6,600	3472	28,500	800		9,300	11,300	62,700	9,000
	1942	6,510	3887	27,060	560	3,330	10,100	10,400	62,800	8,900
	1943	6,890	4030	28,310	525	4,430	9,530	*	68,860	7,795
	1944	6,895	4309	26,880	498	3,928	8,873	1,310	66,020	9,197
	1945	6,877	4857	27,551	529	3,925	9,249	1,312	65,418	9,177
	1946	7,066	5203	27,426	518	4,395	9,876	1,142	63,757	9,642
	1947	7,091	5272	26,742	498	4,297	9,747	865	62,144	9,076
	1948	7,005	5536	24,915	480	4,270	9,220	870	60,840	8,625

* Data not available.

Estimates of Wildlife on National Forests

Predatory Animals

	Year	Bobcat or Lynx	Coyotes	Mt. Lions	Wolf
Arizona	1940	10,000	21,900	480	13
	1941	11,580	23,500	490	15
	1942	10,870	28,500	455	21
	1943	10,940	28,090	475	8
	1944	11,060	27,350	463	16
	1945	11,083	25,950	429	9
	1946	11,020	27,106	439	12
	1947	11,297	23,434	487	14
	1948	11,010	20,475	440	11
New Mex.	1940	6,700	11,500	383	18
	1941	6,590	12,180	342	24
	1942	10,440	13,100	307	11
	1943	7,650	13,930	311	5
	1944	8,195	15,135	327	7
	1945	8,393	15,740	296	14
	1946	8,635	16,622	347	9
	1947	8,390	16,755	352	6
	1948	8,435	15,240	375	10

Game Animals Killed by Man

	Year	Antelope	Bear	Deer	Elk	Peccary	Squirrel	Wild Turkey
Arizona	1940	3	97	2,943	91	*	200	510
	1941	294	71	3,240	152	*	170	715
	1942	165	56	3,340	279	120	*	510
	1943	336	71	3,507	445	130	*	*
	1944	1	81	3,887	-	207	*	431
	1945	-	114	3,294	-	258	*	6
	1946	-	173	3,991	135	291	*	213
	1947	-	179	4,740	551	278	*	208
	1948	-	156	5,085	965	510	*	160
New Mex.	1940	55	100	4,050	25	*	2,600	560
	1941	122	97	4,403	31	*	2,350	629
	1942	123	54	3,428	51	10	*	370
	1943	135	50	5,157	135	10	*	*
	1944	140	119	3,856	51	10	*	623
	1945	163	129	3,564	37	10	*	624
	1946	-	191	4,550	49	-	*	631
	1947	161	159	4,173	55	-	*	918
	1948	110	135	5,635	73	-	*	670
Total Region 3	1940	58	197	6,993	116	*	2,800	1,070
	1941	416	168	7,643	183	*	2,520	1,344
	1942	288	110	6,768	330	130	*	880
	1943	471	121	8,664	580	140	*	*
	1944	141	200	7,743	51	217	*	1,054
	1945	163	243	6,858	37	268	*	630
	1946	-	364	8,541	184	291	*	844
	1947	161	338	8,913	606	278	*	1,126
	1948	110	291	10,720	1038	510	*	830

* Data not available.

GOVERNMENT OWNED WILDLIFE AND RANGE USE IMPROVEMENTS - JUNE 30, 1948

ARIZONA

Forest	Range Use Improvements: Fence & Corrals Miles	Stock Driveways Miles	Water Development Number	Range Revegetation Acres	Cost	Wildlife Use Improvements: Game Refuge Fences Miles	Fish Bearing Ponds Number	Stream & Lake Improv. Number	Cost
Apache	552.9	45.0	82	-	192,313.49	3.5	5	16	59,991.26
Coconino	1,098.0	-	332	-	481,121.45	-	-	7	40,095.54
Coronado	1,380.9	-	650	70.0	668,883.79	-	-	1	15,328.27
Crook	1,142.3	-	380	2,300.0	527,900.52	-	-	8	18,040.63
Kaibab	545.4	5.5	184	91.2	324,500.40	-	-	1	3,670.28
Prescott	986.6	7.5	345	-	540,441.51	4.3	-	-	3,843.54
Sitgreaves	402.5	-	75	-	156,606.99	-	10	1	4,717.31
Tonto	915.6	120.8	398	731.0	366,406.22	-	-	5	17,504.26
Total Forests	7,024.2	178.8	2,446	3,192.2	3,258,174.37	7.8	15	39	163,191.09
Swn. Forest & Range Exp. Station	121.0	-	54	-	84,073.92	-	-	-	-
GRAND TOTAL ARIZONA	7,145.2	178.8	2,500	3,192.2	3,342,248.29	7.8	15	39	163,191.09

NEW MEXICO

Apache	579.1	-	116	-	211,406.47	-	-	-	-
Carson	449.1	-	97	760.0	202,258.24	-	-	12	25,192.84
Cibola	1,546.0	-	253	50.0	577,489.36	-	-	3	11,627.52
Coronado	-	-	-	-	-	-	-	-	-
Gila	1,770.5	-	274	261.0	667,640.82	2.5	-	12	14,207.64
Lincoln	877.3	-	221	45.0	524,401.98	-	-	-	7,591.16
Santa Fe	593.9	44.0	25	200.0	203,864.40	-	-	31	24,071.43
Total Forests	5,815.9	44.0	986	1,316.0	2,387,061.27	2.5	-	58	82,690.59
Swn. Forest & Range Exp. Station	132.0	-	7	-	57,794.40	-	-	-	-
GRAND TOTAL N.MEX.	5,947.9	44.0	993	1,316.0	2,444,855.67	2.5	-	58	82,690.59
TOTAL FORESTS	12,840.1	222.8	3,432	4,508.2	5,645,235.64	10.3	15	97	245,881.68
TOTAL SOUTHWESTERN	253.0	-	61	-	141,868.32	-	-	-	-
GRAND TOTAL - R-3	13,093.1	222.8	3,493	4,508.2	5,787,103.96	10.3	15	97	245,881.68

LAND DISTRIBUTION STATISTICS

Distribution of Lands in Arizona	Area Acres	% To Total Area of State
Federal		
Indian Reservations	19,224,717	26.39
Grazing Districts and Public Domain	9,011,697	12.37
National Parks and National Monuments	2,394,568	3.29
Soil Conservation Service	10,454	.01
Santa Rita Experimental Range	52,604	.07
Southwestern Forest & Range Experiment Station	245	-
National Forests (net) *	11,430,587	15.69
Other Federal Lands	5,823,950	8.00
Total Federally Owned or Managed:	47,948,822	65.82
State		
Total State Owned	8,356,497	11.47
Private		
Private in farms and ranches	13,964,572	19.17
Private - other	2,577,927	3.54
Total Privately Owned	16,542,499	
Total Area of State	72,847,818	100.00
Distribution of Lands in New Mexico		
Federal		
Indian Reservations	7,153,109	9.12
Grazing Districts and Public Domain	14,612,786	18.63
National Parks and National Monuments	163,434	.21
Jornada Experimental Range	189,940	.24
National Forests (net) *	8,610,076	10.98
Soil Conservation Service	566,177	.72
Other Federal Lands	1,371,725	1.75
Total Federally Owned or Managed:	32,667,247	41.65
State		
Total State Owned	12,700,968	16.19
Private		
Private in Farms and Ranches	29,592,372	37.73
Private - Other	3,477,882	4.43
Total Privately Owned:	33,070,254	
Total Area of State	78,438,469	100.00
Total Area of Region 3	151,223,287	

* Latest available figures

The net forest area in Arizona and New Mexico totals:	20,040,663
The gross forest area in Arizona	12,105,616
The gross forest area in New Mexico	9,898,734
TOTAL	22,004,350

Special Use Permits

	Free	Charge	Total
Arizona	3,073	1,647	4,720
New Mexico	1,138	819	1,957
Region 3	4,211	2,466	6,677

Land Exchange
Total Number Consummated Cases to June 30, 1948, Inc.

Offered Lands - Total Consummated		Area Accepted	Estimated Value
Arizona	84	269,762	597,095
New Mexico	75	373,367	1,059,362
Total	159	643,129	1,656,457

Selected Lands - Total Consummated

State	Area	Land Value	M.Ft. B.M.	Timber Value
Arizona	56,267	$ 140,309	161,737	$ 392,973
New Mexico	164,745	302,265	272,807	616,821
Region Total	221,012	$ 442,574	434,544	$ 1,009,794

NATIONAL FOREST AREAS

Fiscal Year 1948

Arizona	Net Area	New Mexico	Net Area
Apache	679,432	Apache	887,778
Coconino	1,751,001	Carson	1,114,329
Coronado	1,316,084	Cibola	1,711,100
Crook	1,422,629	Coronado	69,477
Kaibab	1,793,577	Gila	2,394,763
Prescott	1,252,168	Lincoln	1,178,910
Sitgreaves	805,167	Santa Fe	1,253,719
Tonto	2,410,529		
Total Arizona:	11,430,587	Total New Mexico:	8,510,076

Net area of the 152 National Forests in the U.S.: 179,088,191 Acres (F.Y.1948)

EXPERIMENTAL FORESTS

Arizona

Forest	Name of Area	Acreage: National Forest	Acreage: Other	Logging	Grazing	Final Approval
Coconino Kaibab	Fort Valley	4,770		Limited	None	1-28-36
Coconino	Long Valley	2,536	15	Limited	Capacity	3-31-36
Crook	Mt. Graham	3,040		Limited	Continued *	3-23-32
Tonto	Sierra Ancha	13,255		None	Continued	4-6-38

New Mexico

Lincoln	Cloudcroft	2,120		Limited	None	11-30-35

NATURAL AREAS

Arizona

Coconino	Oak Creek Canyon	940		None	None	10-15-31
Coconino	San Francisco Peaks	880		None	Conservative	10-15-31
Coronado	Butterfly Peak	1,000		None	"	7-25-35
Coronado	Chiminea Canyon	160		None	"	2-26-31
Coronado	Pole Bridge Canyon	320		None	Continued	2-26-31
Coronado	Santa Catalina	4,464		None	None	3-23-27

New Mexico

Santa Fe	Monument Canyon	640		None	None	10-1-32

RESEARCH AREA

New Mexico

Santa Fe	Univ. of N. Mex.	10,000		Regular		5-29-30

* Parker Creek Area Closed.

STATEMENT OF AREAS UNDER FOREST SERVICE ADMINISTRATION BY COUNTIES

As of June 30, 1948

State and County	National Forest or Experimental Area	Total Area of County (1940 Census)	Area of County Within N.F. Boundary	Areas not Under F.S. Administration	Acreage Under F.S. Administration	Percent of County Area under F.S. Administration
ARIZONA						
Apache	Apache-Sitgreaves	7,151,360	515,994	29,163	486,831	6.81
Cochise	Coronado-Crook	4,003,840	529,015	24,629	504,386	12.60
Coconino	Coconino-Kaibab- Sitgreaves Prescott	11,886,720	3,584,182	189,473	3,394,709	28.56
Gila	Crook-Tonto	3,040,000	1,724,874	48,761	1,676,113	55.13
Graham	Crook	2,950,400	399,338	2,063	397,275	13.47
Greenlee	Apache-Crook	1,199,360	758,793	9,864	748,929	62.44
Maricopa	Crook- Tonto	5,907,840	696,073	4,310	691,763	11.71
Mohave	Kaibab	8,486,400	28,219	160	28,059	.33
Navajo	Sitgreaves	6,343,040	544,728	71,096	473,632	7.47
Pima	Coronado-Santa Rita Exp. For.-S.W. Exp. For.	5,914,240	448,873	11,349	437,524	7.39
Pinal	Coronado-Crook-Tonto	3,441,920	228,805	6,112	222,693	6.47
Santa Cruz	Coronado	797,440	448,497	23,189	425,308	53.34
Yavapai	Coconino-Kaibab-Prescott Tonto	5,178,240	2,251,629	255,415	1,996,214	38.59
	STATE TOTAL	66,300,800	12,159,020	675,584	11,483,436	

STATEMENT OF AREAS UNDER FOREST SERVICE ADMINISTRATION BY COUNTIES

As of June 30, 1948

State and County	National Forest or Experimental Area	Total area of County (1940 Census)	Area of County Within N.F. Boundary	Area not Under F.S. Administration	Acreage Under F.S. Administration	Percent of County Area under F.S. Administration
NEW MEXICO						
Bernalillo	Cibola	744,320	89,925	8,938	80,987	10.88
Catron	Apache-Cibola-Gila	4,414,720	2,407,930	212,898	2,195,032	49.72
Chavez	Lincoln	3,900,160	41,497	1,359	40,138	1.03
Colfax	Carson	2,409,600	7,680	1,387	6,293	.26
Dona Ana	Jornada Exp. Range	2,434,560	193,482	3,542	189,940	7.80
Eddy	Lincoln	2,664,320	139,172	4,433	134,739	5.06
Grant	Gila-Ft. Bayard Res.	2,540,800	916,012	21,143	894,869	35.22
Hidalgo	Coronado-Gila	2,206,080	136,031	58,901	77,130	3.50
Lincoln	Lincoln	3,109,760	507,575	66,850	440,725	14.17
McKinley	Cibola	3,491,840	262,129	99,437	162,692	4.66
Mora	Carson-Santa Fe	1,242,880	121,891	30,206	91,685	7.38
Otero	Lincoln	4,248,320	660,009	189,165	470,844	11.08
Rio Arriba	Carson-Santa Fe Taos L.U.Project, North half Lobato Grant	3,747,200	1,329,908	64,065	1,265,843	33.78
Sandoval	Cibola-Santa Fe-Ramon Vigil Pro. Ojo de San Jose Proj.	2,439,040	365,995	25,477	340,518	13.96
San Miguel	Santa Fe,El Pueblo Grazing Pro.	3,039,360	368,009	45,821	322,188	10.60
Santa Fe	Santa Fe-Ramon Vigil Proj. Gabaldon Proj.	1,243,520	217,839	21,317	196,522	15.80
Sierra	Cibola-Gila	1,941,760	391,557	11,255	380,302	19.58
Socorro	Cibola-Lincoln	4,974,080	1,032,854	156,202	876,652	17.62
Taos	Carson- Santa Fe-Taos Proj.	1,443,840	468,938	77,914	391,024	27.08
Torrance	Cibola-Lincoln	2,137,600	297,988	47,630	250,358	11.71
Valencia	Cibola	3,607,680	390,979	189,842	201,137	5.57
STATE TOTAL		57,981,440	10,347,400	1,337,782	9,009,618	

IMPROVED PUBLIC RECREATION AREAS ON NATIONAL FORESTS

ARIZONA

APACHE

Picnic Grounds (3)

Elderberry
Junction Spring
Luna Reservoir

Forest Camps (19)

Benny Creek
Greer
East Fork
Sheep Crossing
Big Lake
West Fork
Colonel Spring
Warren
P. S.
Diamond Rock
Aspen
Hall
Beaver Dam
Buffalo Crossing
Hannagan
K. P. Cienega
Grant Creek
Middle Blue
Upper Blue

Camp and Picnic Grounds (4)

Blue Crossing
South Fork
Alpine
Luna Reservoir

Vistas (1)

Blue

COCONINO

Picnic Grounds (4)

Fulton Spring
Lava Cave
Oak Creek
Lake Mary

COCONINO (Continued)

Forest Camps (12)

Townsend
Dairy Springs
Kit Carson
Double Springs
"R.H."
Kehl Springs
Pine Flat
Sliderock
Banjo Bill
Manzanita
Clint's Well
Lake Mary

Vistas (4)

Oak Creek
Schnebly Hill
Mogollon Rim
Bakers Butte

Winter Sports Areas (1)

Arizona Snow Bowl

CORONADO

Picnic Grounds (6)

Sabino Canyon
Bog Springs
Roundup
John Hands
South Fork
Molino Basin

Forest Camps (21)

Bear Wallow
Soldier Camp
Middle Sabino
Marshall Gulch
Madera Canyon
Big Rock
Calabasas
Pena Blanca
Rucker

ARIZONA (Continued)

CORONADO (Continued)

Forest Camps (Continued)

Bathtub
Cypress
Hermitage
Horse Canyon
Sycamore
Turkey Creek
Pinery
Rustler Park
Herb Martyr
Stewart
Idlewild
Sunflower Flat

Camp & Picnic Grounds (1)

Lower Sabino

Winter Sports Areas (1)

Bear Wallow

CROOK

Picnic Grounds (8)

Marijilda
Noon Creek
Wet Canyon
Turkey Flat
Pioneer Pass
Kellner Canyon
Pinal Mountain
Warnica Springs

Forest Camps (12)

Stray Horse
Engineer Spring
Upper Juan Miller
Lower Juan Miller
Honeymoon
Granville
Stockton Pass
Arcadia
Shannon
Hospital Flat
Soldier Creek
Jones Water

Camp & Picnic Grounds (2)

Oak Flat
Treasure Park

KAIBAB

Picnic Grounds (4)

Garland Prairie
White Horse Lake
Sycamore Rim

Forest Camps (6)

Parks
Spitz Spring
Old Bill Williams
J.D. Dam
Jacob Lake
V. T.

Vistas (3) Winter Sports Area (1)

Garland Prarie Bill Williams
Sycamore Rim
House Rock

PRESCOTT

Picnic Grounds (4)

Thumb Butte
The Playgrounds
Potato Patch
Turney Gulch

Forest Camps (8)

Granite Creek
Indian Creek
Wolf Creek
Upper Wolf Creek
Mingus Mountain
Powell Springs
Hazelett Hollow
Kentuck Spring

Camp & Picnic Ground (1)

Granite Basin

Vistas(2) Winter Sports Areas (2)

Granite Basin Mingus Mtn.
Caldwell Canyon Saint Agatha

ARIZONA (Continued)

SITGREAVES

Forest Camps (3)

Chevalon
Lakeside
Pinetop

Vistas (1)

Promontory Tower

Winter Sports Areas (1)

Springer Mountain

TONTO

Picnic Grounds (6)

Cave Creek
Seven Springs
Camp Creek
Coon Bluff
Blue Point
Canyon Lake

TONTO (Cont.)

Forest Camps (8)

Broncho Canyon
Blue Point
Apache Lake
Pine
Sycamore
Horton-Tonto Creek
Reynolds Creek
Rose Creek

TOTAL DEVELOPED AREAS

ARIZONA

Picnic Grounds	35
Forest Camps	89
Camp & Picnic Grounds	8
Winter Sports Areas	6
Vistas	11
	149

NEW MEXICO

APACHE

Forest Camps (2)

Pueblo Park
Cottonwood Canyon

Vistas (1)

Chimney Rock

CORONADO

Forest Camps (1)

Clanton Canyon

CARSON

Picnic Grounds (3)

The Cave
Kiowa Springs
Divisadero Peak

CARSON (Continued)

Forest Camps (21)

El Nogal
Las Petaca
Capulin
La Sombra
Comeles
Agua Piedra
Echo Cave
La Junta
Angostura
Santa Barbara
Hondo Canyon
Cabresto Lake
Eagle Rock
Columbine
Goat Hill
La Bobita
Elephant Rock
June Bug
Lagunitas
La Jara
Canjilon

Camp and Picnic Grounds (2)

La Viniteria
El Rito

Winter Sports Areas (2)

Agua Piedra
Red River

NEW MEXICO (Continued)

CIBOLA

Picnic Grounds (23)

Juan Tabo
La Cueva
Cole Spring
Cienega Canyon
Sulphur Canyon
Doc Long
Tree Spring
Dry Camp
Balsam Glade
Capulin
Sandia Crest
Kiwanis Point
Las Huertas Creek
Cedro Peak
New Canyon
Mountainair Ranger Station
Luna Park
Water Canyon
McGaffey
Whitewater
Red Cloud
Springtime
Tajique

Forest Camps (6)

Fourth of July Spring
Capillo Peak
Bear Trap
Hughes Mill
Quaking Aspen
Turkey Spring

Camp & Picnic Grounds (2)

Canyon Colorado
Canyon Lobo

Winter Sports Areas (2)

Sandia Mountain
McGaffey

Vistas (3)

Sandia Crest
Kiwanis Point
Capillo Peak

GILA

Picnic Grounds (7)

Little Walnut
Cherry Creek
McMillen
Pine Flat
Bursum
Emory Pass
Negrito Tower

Forest Camps (12)

Goforth
Iron Creek
Wrights Cabin
Rocky Canyon
Black Canyon
Lower Black Canyon
Gilita
Willow Creek
Ben Lilly
Whitewater
Little Dry
Big Dry

Vistas (1)

Emory Pass

LINCOLN

Picnic Grounds (2)

Sitting Bull Falls
Cedar Creek

Forest Camps (4)

James Canyon
Karr Canyon
Cherokee Bill
School House

Winter Sports Areas (1)

Cedar Creek

Vistas (2)

Monjeau Lookout
Ruidoso Lookout

NEW MEXICO (Cont'd)

SANTA FE

Picnic Grounds (5)

Spence Spring
Little Tesuque
Dalton
E. V. Long
Brides

Forest Camps (19)

Battleship Rock
Jemez River
La Cueva
Calaveras
Rio Las Vacas
East Fork
Jemez Falls
Las Conchas
Black Canyon
Fields Tract
Holy Ghost
Winsor Creek
Panchuela
Oak Flat
Fishing Hole
The Pines
Three Falls
Puerco
Mud Springs

Camp and Picnic Grounds (2)

Banco Bonito
Paliza

Winter Sports Areas (1)

Aspen Basin

JORNADA RANGE RESERVE

Picnic Grounds (1)

Rope Springs

TOTAL DEVELOPED AREAS

NEW MEXICO

Picnic Grounds	41
Forest Camps	65
Camp & Picnic Grounds	6
Winter Sports Areas	6
Vistas	7
	125

TOTAL DEVELOPED AREAS

REGION 3

Picnic Grounds	76
Forest Camps	154
Camp & Picnic Grounds	14
Winter Sports Areas	12
Vistas	18
	274

RECREATION VISITORS - 1948

(Estimates cover government owned lands only)

Recreation Areas	Arizona	New Mexico	Region 3
Campgrounds	99,240	67,925	167,165
Picnic Areas	352,900	183,740	536,640
Winter Sports Areas	29,335	16,470	45,805
Organization Camps	11,435	7,525	18,960
Hotels and Resorts	87,594	3,145	90,739
Recreation Residences	6,553	2,970	9,523
Wilderness Areas	16,767	6,205	22,972
Other Forest Areas	336,230	214,875	551,105
Highways & Roads	1,875,325	189,420	2,064,745
Totals:	2,815,379	692,275	3,507,654

WILDERNESS AREAS

Arizona

Forest	Name of Area	Acreage: National Forest	Acreage: Other	Logging	Final Approval
Apache (Crook)	Blue Range	216,737	1,427	Deferred	8-20-36
Tonto	Mazatzal	205,000	346	Limited	6-13-40
Tonto	Superstition	118,754	66	Limited	4-17-40
(Crook)	"	13,000			

New Mexico

Gila	Black Range	168,424	1,560	Discouraged	8-20-36
Gila	Gila	562,609	4,445	Inaccessible	4-4-38 *
Santa Fe	Pecos Division	136,640	1,360	Discouraged	8-22-36

*Amended 11/25/44

WILD AREAS

Arizona

Apache	Mt. Baldy	7,400		Inaccessible	8-20-36
Coconino	Sycamore Canyon	21,277	1,108	None	8-20-36
Kaibab	" "	5,870			
Prescott	" "	18,915			
Coronado	Chiricahua	18,000		Discouraged	9-18-40
Crook	Galiuro	55,000		Discouraged	6-19-40
Prescott	Pine Mountain	9,842	76	None	8-22-36
(Tonto)	" "	7,582			
Tonto	Sierra Ancha	29,834	66	Discouraged	2-28-33 **

**Amended 4/6/38

New Mexico

Lincoln	White Mountain	22,800	1,200	Discouraged	8-20-36
Santa Fe	San Pedro Parks	41,132		Not Contemplated	9-16-40

PAYMENTS TO STATES FROM NATIONAL FOREST RECEIPTS - JUNE 30, 1948

*(See explanation at foot of Page 38)

ARIZONA

Forest	County	Net Forest Area-Acres	Act June 20, 1910 (School Sections)	Act May 23,1908 (25% Fund)
Apache	Apache	442,621		$ 13,993.46
	Greenlee	236,811		7,486.77
	Total	679,432	$ 5,316.79	21,480.23
Coconino	Coconino	1,324,634		50,905.36
	Yavapai	426,367		16,385.35
	Total	1,751,001	16,655.80	67,290.71
Coronado	Cochise	481,990		4,970.89
	Pima	384,675		3,967.27
	Pinal	24,111		248.65
	Santa Cruz	425,308		4,386.32
	Total	1,316,084	3,359.62	13,573.13
Crook	Cochise	22,396		251.25
	Gila	340,420		3,818.63
	Graham	397,275		4,456.40
	Greenlee	512,118		5,744.64
	Maricopa	10,866		121.89
	Pinal	139,554		1,565.44
	Total	1,422,629	3,949.98	15,958.25
Kaibab	Coconino	1,739,498		20,154.62
	Mohave	28,059		325.10
	Yavapai	26,020		301.48
	Total	1,793,577	5,143.76	20,781.20
Prescott	Coconino	43,252		401.22
	Yavapai	1,208,916		11,214.24
	Total	1,252,168	2,875.06	11,615.46
Sitgreaves	Apache	44,210		3,030.44
	Coconino	287,325		19,695.12
	Navajo	473,632		32,465.80
	Total	805,167	13,660.97	55,191.36
Tonto	Gila	1,335,693		12,631.98
	Maricopa	680,897		6,439.40
	Pinal	59,028		558.24
	Yavapai	334,911		3,167.25
	Total	2,410,529	5,642.68	22,796.87
Total for Arizona:		11,430,587	$ 56,604.66	$228,687.21

DISTRIBUTION BY COUNTIES OF THE 25% FUND (LAST COLUMN)

Apache	17,023.90	Greenlee	13,231.41	Pinal	2,372.33
Cochise	5,222.14	Maricopa	6,561.29	Santa Cruz	4,386.32
Coconino	91,156.32	Mohave	325.10	Yavapai	31,068.32
Gila	16,450.61	Navajo	32,465.80		
Graham	4,456.40	Pima	3,967.27	TOTAL:	$ 228,687.21

PAYMENTS TO STATES FROM NATIONAL FOREST RECEIPTS - JUNE 30, 1948

* (See explanation at foot of Page 38)

NEW MEXICO

Forest	County	Net Forest Area-Acres	Act June 20, 1910 (School Sections)	Act May 23,1908 (25% Fund)
Apache	Catron	887,778	$ 130.06	$ 29,771.32
Carson	Colfax	6,293		67.30
	Mora	2,496		26.70
	Rio Arriba	783,014		8,373.75
	Taos	321,566		3,438.91
	Total	1,113,369	52.02	11,906.66
Cibola	Bernalillo	80,987		738.84
	Catron	165,709		1,511.75
	McKinley	162,692		1,484.23
	Sandoval	45,263		412.93
	Sierra	20,766		189.45
	Socorro	874,786		7,980.61
	Torrance	159,760		1,457.48
	Valencia	201,137		1,834.96
	Total	1,711,100	68.20	15,610.25
Coronado	Hidalgo	69,477	3.32	760.05
Gila	Catron	1,141,545		9,063.65
	Grant	884,034		7,019.06
	Hidalgo	7,653		60.76
	Sierra	359,536		2,854.66
	Total	2,392,768	83.00	18,998.13
Lincoln	Chavez	40,138		427.99
	Eddy	134,739		1,436.75
	Lincoln	440,725		4,699.53
	Otero	470,844		5,020.69
	Socorro	1,866		19.90
	Torrance	90,598		966.06
	Total	1,178,910	54.92	12,570.92
Santa Fe	Mora	89,189		1,623.33
	Rio Arriba	412,392		7,506.00
	Sandoval	274,878		5,003.08
	San Miguel	295,724		5,382.50
	Santa Fe	179,615		3,269.20
	Taos	1,921		34.99
	Total	1,253,719	99.69	22,819.10
Total for N. Mex.		8,607,121	$ 491.21	$112,436.43

DISTRIBUTION BY COUNTIES OF THE 25% FUND (LAST COLUMN)

Bernalillo	738.84	Hidalgo	820.81	Sandoval	5,416.01
Catron	40,346.72	Lincoln	4,699.53	San Miguel	5,382.50
Chavez	427.99	McKinley	1,484.23	Santa Fe	3,269.20
Colfax	67.30	Mora	1,650.03	Sierra	3,044.11
Eddy	1,436.75	Otero	5,020.69	Socorro	8,000.51
Grant	7,019.06	Rio Arriba	15,879.75	Taos	3,473.90
Torrence	2,423.54	Valencia	1,834.96	Total:	$ 112,436.43

NET RECEIPTS FOR THE FISCAL YEAR 1948

State	TIMBER			Grazing	Land Use	Power	Total
	Timber Sales	Forest Products	Timber Tres-pass				
Ariz.	$621,888.80	$1027.70	$ 851.34	$313,162.31	$25,089.14	$9331.72	$971,351.01
N.M.	262,222.40	2177.13	5097.92	166,292.28	14,277.58	172.10	450,239.41
R-3	$884,111.20	$3204.83	$5949.26	$479,454.59	$39,366.72	$9503.82	$1,421,590.42

(Due School Fund (Enabling Act June 20, 1910))

Arizona. $56,604.66

New Mexico 491.21

	Arizona	New Mexico
Net amounts on which 25% and 10% are computed	$971,353.50	$450,236.93
Due States: 25%	228,687.21	112,436.43 *
Due Road and Trail Fund: 10%	97,135.35	45,023.69 *
TOTALS:	$325,822.56	$157,460.12

Value of timber delivered in exchange for land under the Act of March 20, 1922, less value previously delivered in cases rejected during the year: $3,513.24.

* 25% of the receipts from National Forests are paid over to the counties in which the forests are located, in lieu of taxes. An additional 10% of the receipts are returned to the forests for use on roads and trails within the forests.

ROADS AND TRAILS - JUNE 30, 1948

During Fiscal Year 1948	ARIZONA						
	Construction		Betterment		Maintenance		
Type of Road	Miles	Cost	Miles	Cost	Miles	Cost	Total
Forest Highways	62.3	267,807	8.3	7,395	237.0	21,464	296,666
Forest Dev. Roads	2.3	20,849	13.6	11,847	5,437	190,298	222,994
Trails	1.5	358			1,387	34,967	35,325
TOTAL:		289,014		19,242		246,729	554,985
To June 30, 1948							
Forest Highways	744.5	10,155,948	330.0	2,615,078		501,617	13,272,643
Forest Dev. Roads	3,495	7,653,004	986.0	1,560,353		2,574,443	11,787,800
Trails	3,123	582,274				507,493	1,089,767
TOTAL:		18,391,226		4,175,431		3,583,553	26,150,210
During Fiscal Year 1948	NEW MEXICO						
Forest Highways	32.7	679,630	5.9	47,150		7,254	734,034
Forest Dev. Roads	25.0	85,604	7.8	16,739	3,609	220,238	322,581
Trails	1.0	1,003			2,771	27,655	28,658
TOTAL:		766,237		63,889		255,147	1,085,273
To June 30, 1948							
Forest Highways	342.0	7,561,900	103.7	613,073		515,629	8,690,602
Forest Dev. Roads	2,519	5,816,247	750.0	1,631,644		2,875,478	10,323,369
Trails	1,960	268,732				360,764	629,496
TOTAL:		13,646,879		2,244,717		3,751,871	19,643,467
During Fiscal Year 1948	REGION 3						
Forest Highways	95.0	947,437	14.2	54,545		28,718	1,030,700
Forest Dev. Roads	27.3	106,453	21.4	28,586	9,046	410,536	545,575
Trails	2.5	1,361			4,158	62,622	63,983
TOTAL:		1,055,251		83,131		501,876	1,640,258
Total to June 30, 1948							
Forest Highways	1086.5	17,717,848	433.7	3,228,151		1,017,246	21,963,245
Forest Dev. Roads	6,014	13,469,251	1,736	3,191,997		5,449,921	22,111,169
Trails	5,083	851,006				868,257	1,719,263
TOTAL:		32,038,105		6,420,148		7,335,424	45,793,677

SCHOOLS GIVING COURSES LEADING TO A DEGREE IN FORESTRY
(As compiled by the U. S. Forest Service)

Alabama Polytechnic Institute, Auburn, Alabama
University of California, Berkeley 4, California
Colorado State College, Fort Collins, Colorado
Duke University, Durham, North Carolina
University of Georgia, Athens, Georgia
University of Florida, Gainesville, Florida
Harvard University, Petersham, Massachusetts
University of Idaho, Moscow, Idaho
Iowa State College, Ames, Iowa
Louisiana State University, Baton Rouge, Louisiana
University of Maine, Orono, Maine
Michigan State College, East Lansing, Michigan
University of Michigan, Ann Arbor, Michigan
Michigan College of Mining & Technology, Houghton, Michigan
University of Minnesota, Saint Paul, Minnesota
Montana State University, Missoula, Montana
University of New Hampshire, Durham, New Hampshire
North Carolina State College, Raleigh, North Carolina
Oregon State College, Corvallis, Oregon
Pennsylvania State College, State College, Pennsylvania
Purdue University, Lafayette, Indiana
Syracuse University, Syracuse, New York
Utah State College, Logan, Utah
University of Washington, Seattle, Washington
West Virginia University, Morgantown, West Virginia
University of Missouri, Columbia, Missouri
Oklahoma A&M College, Stillwater, Oklahoma
Yale University, New Haven, Conn.

INSTITUTIONS WHICH OFFER A FORESTRY CURRICULUM BUT NOT A FORESTRY DEGREE

University of Connecticut, Storrs, Conn.
University of Massachusetts, Amherst, Mass.
Stephen F. Austin State College, Nacogdoches, Texas
Virginia Polytechnic Institute, Blacksburg, Virginia
Washington State College, Pullman, Washington

1631 First sawmill at Berwick, Maine.
1640 First Ordinance governing timber use. (Exeter, N.H.).
1822 DeWitt Clinton, Governor of New York, pleaded for practice of conservation.
1828 Live oak and cedar reservations for Navy made in Louisiana (19,000 acres).
1831 Timber cutting on public lands prohibited.
1849 Report of Patent Office urges conservation.
1867 Wisconsin appointed committee to report on effect of forest destruction.
1870 Census. Forest area canvassed.
1872 Governor Morton of Nebraska established Arbor Day.
1873 Forestry Committee of American Association for the Advancement of Science presented memorials to Congress, asking for the appointment of a commission of forestry.
Timber culture act.
1876 Congress established an "agency" on forestry in the Department of Agriculture. Dr. Franklin B. Hough appointed Commissioner of Forestry.
1877 Congress granted its first appropriation of $6,000 for the purpose of obtaining information preparatory to establishing a Division of Forestry.
1882 American Forestry Association started April 25 at Cincinnati.
1884 The duty of making experiments with timber was added to work of Division of Forestry.
1886 Division of Forestry in Department of Agriculture created.
1891 By Act of Congress, the President was given power to establish forest reservations.
President Harrison established the Yellowstone Park Timber Land Reserve to be under control of the Land Office.
1892 Pecos River Forest Reserve established in New Mexico.
1893 Grand Canyon Forest Reserve established in Arizona.
1896 Secretary of Interior requested the National Academy of Science to investigate and recommend a National Forest policy.
1897 By the Act of June 4, the forest reserves were put under administration and from this Act, with subsequent amendments, the forests are now being administered. The Land Office had charge of administration.
The Division of Forestry gave technical advice. The U. S. Geological Survey was charged with surveying and mapping the forests.
1898 The Division of Forestry employed a total of six clerks and five Scientific employees.
The first field work was done, which consisted of special investigation in connection with lumbering.
1901 The Division of Forestry was raised to the rank of Bureau but the change was in name only.
1905 By the Act of February 1, forestry work was consolidated and the forest reserves were transferred to the Department of Agriculture and the work of the Service as we know it today, started. In July, 1905, the Bureau of Forestry became the Forest Service.
1907 The "forest reserves" were changed to National Forests in name to correct the impression that they were withdrawn from use.

1908 The direct administration of field work was transferred from Washington, D.C., to six district headquarters in the West; in 1914, a seventh district was established for the Appalachian region; in 1921 an eighth district was established in Alaska, and in 1929, a ninth district was set up for the Lake States.

1909 Between 1901 and 1909, President Roosevelt set aside over 148,000,000 acres of National Forests.

1911 By Act of March 1 (Weeks Law), acquisition of forest lands on headwaters of navigable streams east of Mississippi River made possible.

1922 General Forest Exchange Act authorizing exchange of lands in National Forests, cutting of timber in exchange for land, reservation of timber, etc., amended and extended 1923, 1926, 1928, 1929, 1935.

1924 The Reforestation Act (Clarke-McNary) was passed on June 7, greatly extending the scope of government cooperation in forestry.

1928 McNary-Woodruss Act was passed, authorizing appropriations of $2,000,000 for 1929 and $3,000,000 each for 1930 and 1931 for purchase of forest lands.

Forest Research Act (McNary-McSweeney) was passed, providing for a national forest research program on the part of seven governmental bureaus.

1930 Forest Service Districts became "Regions."

Secretary of Agriculture authorized to enlarge tree planting operations on National Forests.

Secretary of Agriculture authorized in cases of emergency to incur expense in search of persons lost in National Forests and in transporting persons seriously ill, injured or who may die within National Forests to nearest place where may be transferred to interested relatives or local authorities.

1935 Secretary of Agriculture authorized to cooperate with States in acquisition and administration of State Forests (Fulmer Act.)

1936 Secretary of Agriculture authorized to maintain forest experiment stations throughout the United States.

1937 Secretary of Agriculture authorized to cooperate in developement of farm forestry in States and Territories. (Norris-Doxey Act).

1938 Senate Concurrent Resolution No.31 adopted June 13, 1938, created a Joint Congressional Committee to study the forest situation in the United States.

1941 Joint Congressional Committee on Forestry issued a report on "Forest Lands of the United States," citing deplorable conditions in the forest areas of many sections of U. S. and recommending "The establishment of a real forest economy in this country which, as important segment of the broad agricultural economy, will put to constructive use one-third of our total land areas." Recommendations included various cooperative aids to private forest land owners, expansion of public ownership, and a federal-state system of regulation governing forestry practices.

1944 Secretary of Agriculture and Secretary of the Interior authorized by Congress to establish cooperative sustained-yield units, under cooperative agreements with private owners of forest land within the units.

1944 Secretary of Agriculture authorized and directed by Congress to cooperate in making a national survey of forest resources.

Clarke-McNary Act (see "1924") amended, increasing funds to not exceeding $1,000,000 annually.

1945-47 The Forest Service completed a post-war reappraisal of the forest situation in the United States. Several Reappraisal Reports were published. The reappraisal showed that the volume of saw-timber in the country's forests had declined some 43 percent in 36 years, that saw-timber was being drained from the forests one and a half times as fast as it was being replaced by growth, and that there had been a marked deterioration in quality as well as quantity of timber. It showed that cutting practice on 64 percent of all private forest land was poor to destructive; 28 percent was fair; only 8 percent was good or better. The reports said there is ample forest land in the United States to grow all the timber we are likely to need, but that if prospective future requirements are to be met, timber growing stock should be built up to double the present volume.

1948 First sustained-yield unit in Region established under the Sustained Yield Law (See "1944") near Vallecitos, New Mexico, on Carson National Forest.

Secretary of Agriculture set up an advisory committee to consider questions arising in regard to National Forest administration.